K_4 = Equivalent volume of water vapor at standard conditions, 1.336×10^{-3} scm/g $(4.717 \times 10^{-2}$ scf/g).

12.4 SO_2 Concentration.

$$C_{so_2} = \frac{K_2 N (V_t - V_{tb})(V_{soln}/V_a)}{V_{m(std)} + V_{co_2(std)}} \qquad \text{Eq. 6A-3}$$

Where:

K_2 = 32.03 mg SO_2/meq. SO_2 $(7.061 \times 10^{-5}$ lb SO_2/meq. $SO_2)$

12.5 CO_2 Concentration.

$$C_{co_2} = \frac{V_{co_2(std)}}{V_{m(std)} + V_{co_2(std)}} \qquad \text{Eq. 6A-4}$$

12.6   Moisture Concentration.

$$C_w = \frac{V_{w(std)}}{V_{m(std)} + V_{w(std)} + V_{co_2(std)}} \qquad \text{Eq. 6A-5}$$

13.0   Method Performance

13.1 Range and Precision. The minimum detectable limit and the upper limit for the measurement of SO_2 are the same as for Method 6. For a 20-liter sample, this method has a precision of ±0.5 percent CO_2 for concentrations between 2.5 and 25 percent CO_2 and ±1.0 percent moisture for moisture concentrations greater than 5 percent.

14.0   Pollution Prevention [Reserved]

15.0   Waste Management. [Reserved]

16.0   Alternative Methods

If the only emission measurement desired is in terms of emission rate of SO_2 (ng/J or lb/10[6] Btu), an abbreviated procedure may be used. The differences between the above procedure and the abbreviated procedure are described below.

16.1 Sampling Train. The sampling train is the same as that shown in Figure 6A–1 and as described in Section 6.1, except that the dry gas meter is not needed.

16.2 Preparation of the Sampling Train. Follow the same procedure as in Section 8.1, except do not weigh the isopropanol bubbler, the SO_2 absorbing impingers, or the moisture absorber.

16.3 Sampling Train Leak-Check Procedure and Sample Collection. Leak-check and operate the sampling train as described in Section 8.2, except that dry gas meter readings, barometric pressure, and dry gas meter temperatures need not be recorded during sampling.

16.4 Sample Recovery. Follow the procedure in Section 8.3, except do not weigh the isopropanol bubbler, the SO_2 absorbing impingers, or the moisture absorber.

16.5 Sample Analysis. Analysis of the peroxide solution and QA audit samples is the same as that described in Sections 11.1 and 11.2, respectively.

16.6 Calculations.
16.6.1 SO_2 Collected.

$$m_{SO_2} = K_2 N (V_t - V_{tb})(V_{soln}/V_a) \qquad \text{Eq. 6A-6}$$

Where:

K_2 = 32.03 mg SO_2/meq. SO_2
K_2 = 7.061×10^{-5} lb SO_2/meq. SO_2

16.6.2   Sulfur Dioxide Emission Rate.

$$E_{SO_2} = K_5 F_c m_{so_2}/(m_{af} - m_{ai}) \qquad \text{Eq. 6A-7}$$

Where: K_5 = 1.829×10^9 mg/dscm